

RESOLUTION MSC.34(63)
adopted on 23 May 1994
ADOPTION OF AMENDMENTS TO THE CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
LIQUEFIED GASES IN BULK

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ANNEX 5

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AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.328(IX), by which the Assembly, at its ninth session, adopted the Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (Gas Carrier Code) and authorized the Committee to amend the Code as may be necessary,

NOTING resolution MSC.32(63), by which the Committee adopted amendments to the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code),

RECOGNIZING the need to bring the corresponding amendments to the Gas Carrier Code into force on the date on which the amendments to the IGC Code enter into force,

HAVING CONSIDERED at its sixty-third session amendments to the Gas Carrier Code proposed by the Sub-Committee on Bulk Chemicals,

1. ADOPTS amendments to the Gas Carrier Code, the text of which is given in the Annex to the present resolution;
2. DETERMINES that the amendments should become effective on 1 July 1998 upon acceptance and entry into force of the corresponding amendments to the IGC Code adopted by resolution MSC.32(63).

ANNEX

AMENDMENTS TO THE CODE FOR THE CONSTRUCTION AND EQUIPMENT OF
SHIPS CARRYING LIQUEFIED GASES IN BULK

- 1 Existing chapter XV is replaced by the following:

"CHAPTER XV

FILLING LIMITS FOR CARGO TANKS

15.1 General

15.1.1 No cargo tanks should have a higher filling limit (FL) than 98% at the reference temperature, except as permitted by 15.1.3.

15.1.2 The maximum loading limit (LL) to which a cargo tank may be loaded should be determined by the following formula:

$$LL = FL \frac{\rho_R}{\rho_L}$$

where:

- LL = loading limit expressed in percent which means the maximum allowable liquid volume relative to the tank volume to which the tank may be loaded;
- FL = filling limit as specified in 15.1.1 or 15.1.3;
- ρ_R = relative density of cargo at the reference temperature; and
- ρ_L = relative density of cargo at the loading temperature and pressure.

15.1.3 The Administration may allow a higher filling limit (FL) than the limit of 98% specified in 15.1.1 at the reference temperature, taking into account the shape of the tank, arrangements of pressure relief valves, accuracy of level and temperature gauging and the difference between the loading temperature and the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves, provided the conditions specified in 8.2.17 are maintained.

15.1.4 For the purposes of this chapter only, "reference temperature" means:

- (a) the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves when no cargo vapour pressure/temperature control as referred to in chapter VII is provided;

- (b) the temperature of the cargo upon termination of loading, during transport, or at unloading, whichever is the greatest, when a cargo vapour pressure/temperature control as referred to in chapter VII is provided. If this reference temperature would result in the cargo tank becoming liquid full before the cargo reaches a temperature corresponding to the vapour pressure of the cargo at the set pressure of the relief valves required in 8.2, an additional pressure relieving system complying with 8.3 should be fitted.

15.1.5 The Administration may allow type C tanks to be loaded according to the following formula provided that the tank vent system has been approved in accordance with 8.2.18:

$$LL = FL \frac{\rho_R}{\rho_L}$$

where:

- LL = loading limit as specified in 15.1.2;
FL = filling limit as specified in 15.1.1 or 15.1.3;
 ρ_R = relative density of cargo at the highest temperature which the cargo may reach upon termination of loading, during transport, or at unloading, under the ambient design temperature conditions described in 7.1.2; and
 ρ_L = as specified in 15.1.2.

This paragraph does not apply to products requiring a type 1G ship.

15.2 Information to be provided to the master

The maximum allowable loading limits for each cargo tank should be indicated for each product which may be carried, for each loading temperature which may be applied and for the applicable maximum reference temperature, on a list to be approved by the Administration. Pressures at which the pressure relief valves, including those valves required by 8.3, have been set should also be stated on the list. A copy of the list should be permanently kept on board by the master.

15.3 Chapter XV applies to all ships regardless of the date of construction."

2 The following words are added at the end of existing paragraph 8.2.17:

"at the maximum allowable filling limit (FL)".

3 The following new paragraphs 8.2.18 and 8.2.19 are added after existing paragraph 8.2.17:

"8.2.18 The adequacy of the vent system fitted on tanks loaded in accordance with 15.1.5 is to be demonstrated using the guidelines developed by the Organization*. A relevant certificate should be permanently kept on board the ship. For the purposes of this paragraph, vent system means:

- (a) the tank outlet and the piping to the pressure relief valve;
- (b) the pressure relief valve;
- (c) the piping from the pressure relief valve to the location of discharge to the atmosphere and including any interconnections and piping which joins other tanks.

8.2.19 Paragraphs 8.2.17 and 8.2.18 apply, where applicable, to all ships regardless of the date of construction."

* Refer to the guidelines to be developed by the Organization.

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